Richard K. Barry

A Winding Road

The author took a roundabout journey to become a NASA astrophysicist.

I Was Recently lead author on a paper in the *Astrophysical Journal*. We described the first science using the combined light of the two 10-meter Keck telescopes as a nulling interferometer. Our team's observations led us to discover a new theory for how dust is created by recurrent novae. Authorship, and my position as a NASA astrophysicist, came in a roundabout way. My experience proves that you don't have to follow a particular path to become a research scientist.

My first job out of high school was at the Diamond Crystal Salt Factory in St. Clair, Michigan. All day I threw 100-pound bags of salt from a wooden slat conveyor to a pallet. I would fill one pallet, and then a forklift would quickly replace it with another. Lifting salt bags at a rate of about one every 10 seconds for 8 hours, I would throw about 2,300 bags — 115 tons of salt — on a typical shift. I recall staggering out of the plant at twilight, covered from head to foot with sweat and salt dust and looking up at the stars. I loved them since I was a boy growing up on a farm, but I never thought I could study them professionally. That seemed too distant a dream — an impossible, unscalable mountain for someone like me.

A robot eventually took my job, and having no other options and no money, I enlisted in the U.S. Air Force as an F-16 technician. My 5-year tour took me to many places, including Okinawa, where I fell in love with scuba diving and dove most of the major reefs in the Ryukyuan archipelago in the East China Sea. On one summer night dive, I turned off my lights and watched my bubbles rise through banks of tiny phosphorescent sea creatures toward a watery full Moon. This otherworldly vision led me to recall my old dream, and the next day I enrolled in night school, taking every math class I could — starting with high-school algebra.

With the help of the G.I. Bill, I obtained a degree in electrical engineering at the University of Washington. Even then, the idea of a career in pure science was distant, and it seemed to me that the possibility of failure was too great. Ever the practical person, I wanted to make sure I could find a secure job and support a family. The experience I had gained working on F-16s, together with my coursework, allowed me to land a position with NASA as a Space Shuttle engineer at Kennedy Space Center. Luckily, the F-16 and Space Shuttle shared many of the same technological features.

I remember standing one night on a catwalk on Launch Pad 39A, watching the waves roll into the beach, with the Space Shuttle being readied for launch. I saw a beautiful conjunction of planets and, for a brief moment, could almost sense the great wheel of the ecliptic. I felt a euphoric vertigo — a sense that I could fall right into deep space from where I stood. I was again called toward my old dream. This time it didn't seem so distant.

Now, after five degrees — three in engineering and two in science — I am an astrophysicist. I am truly grateful for the G.I. Bill and the second chance it gave me. I attribute my NASA position and my subsequent success to the determination and self-discipline I learned during my enlistment. Those experiences set me on a path that now finds me studying novae and searching for planets around other stars. I am living my dream! ✦

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